

**Amendments to the Specification:**

Please replace paragraph [0028] at page 9 with the following paragraph:

[0028] Figure 1 (A) Amino acid sequence of murine CatSper2 (SEQ ID NO: 6). The transmembrane segments and ion selective P region are underlined. The basic residues of S4 are highlighted in bold. (B) Pair-wise alignment of CatSper2 (residues 102-338 of SEQ ID NO: 6) and CatSper1 (SEQ ID NO: 7) transmembrane regions. The P regions are boxed.

Please add the following Abstract of the Disclosure on a separate page, following the claims:

**ABSTRACT OF THE DISCLOSURE**

Nucleic acid and protein sequences relating to a cation channel which is sperm-specific (CatSper2) are disclosed. The CatSper2 protein is shown to be specifically expressed in sperm. Nucleic acids, vectors, transformed cells, transgenic animals, polypeptides, and antibodies relating to the CatSper2 gene and protein are disclosed. Also provided are methods of *in vitro* fertilization and contraception, methods of identifying modulators of CatSper2 activity, methods of genotyping subjects with respect to CatSper2, methods of diagnosing and treating CatSper2-mediated disorders, including infertility, as well as methods of doing business related to CatSper2-mediated disorders.